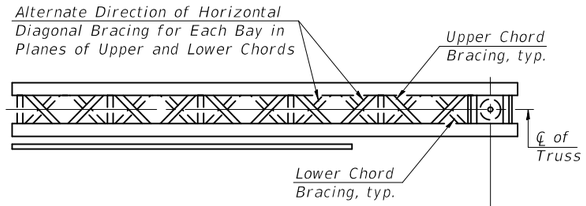
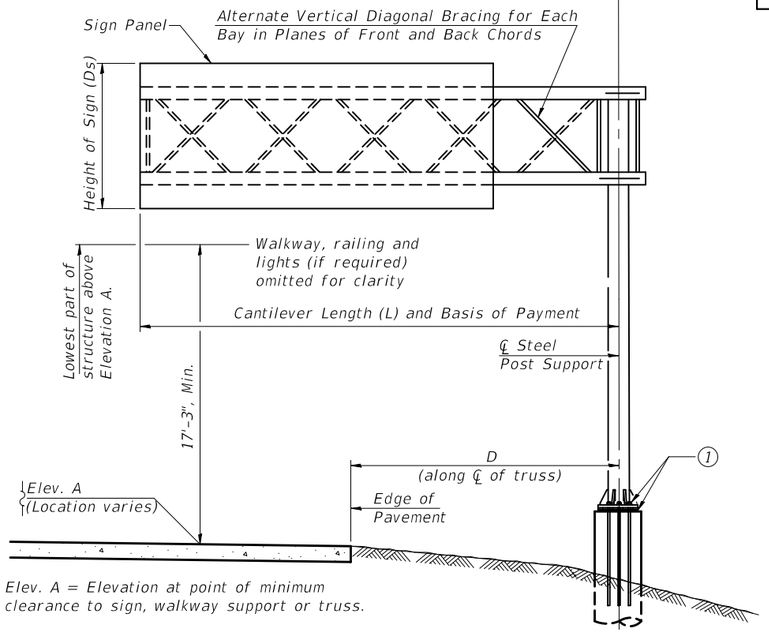
CELL / MODEL NAME	DESCRIPTION	DATE
OSC-S-1	General plan and elevation	2/17/2017
OSC-S-2	Truss details	2/17/2017
OSC-S-3	Juncture details	2/17/2017
OSC-S-4	Type I-C-S truss support post	2/17/2017
OSC-S-5	Type II-C-S & III-C-S truss support post	2/17/2017
OSC-S-6	Walkway details	2/17/2017
OSC-S-6S	Alternate steel walkway details	2/17/2017
OSC-S-7	Walkway details	2/17/2017
OSC-S-7S	Alternate walkway details	2/17/2017
OSC-S-8	Handrail details	2/17/2017
OSC-S-9	Drilled shaft	2/17/2017
OSC-S-D	Damping device	2/17/2017



TYPICAL PLAN
(Walkway not shown)



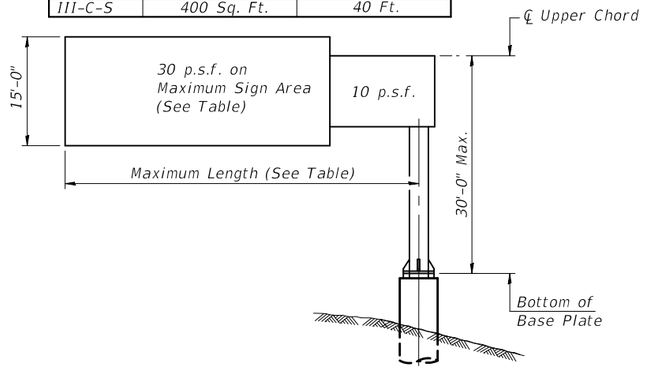
Elev. A = Elevation at point of minimum clearance to sign, walkway support or truss.

TYPICAL ELEVATION
Looking in Direction of Traffic

Sign support structures may be subject to damaging vibrations and oscillations when sign panels are not in place during erection or maintenance of the structure. To avoid these, attach temporary blank sign panels or other bracing to the structure until permanent signs are installed.

Structure Number	Station	Design Truss Type	Cantilever Length (L)	Elev. A	Dim. D	Ds	Total Sign Area

Truss Type	Maximum Sign Area	Maximum Length
I-C-S	170 Sq. Ft.	25 Ft.
II-C-S	340 Sq. Ft.	30 Ft.
III-C-S	400 Sq. Ft.	40 Ft.



DESIGN WIND LOADING DIAGRAM
Parameters shown are basis for I.D.O.T. Standards Installations not within dimensional limits shown require special analysis for all components.

(1) After adjustments to level truss and insure adequate vertical clearance, all top and leveling nuts shall be tightened against the base plate with a minimum torque of 200 lb.-ft. Stainless steel mesh shall then be placed around the perimeter of the base plate. Secure to base plate with stainless steel banding.

Note:
Trusses shall be shipped individually with adequate provision to prevent detrimental motion during transport. This may require ropes between horizontals and diagonals or energy dissipating (elastic) ties to the vehicle. The contractor is responsible for maintaining the configuration and protection of the trusses.

GENERAL NOTES

DESIGN: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. ("AASHTO Specifications")

CONSTRUCTION: Current (at time of letting) Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, Supplemental Specifications and Special Provisions. ("Standard Specifications")

LOADING: 90 M.P.H. WIND VELOCITY

WALKWAY LOADING: Dead load plus 500 lbs. concentrated live load.

ALLOWABLE UNIT STRESSES:
Structural Steel - 20,000 p.s.i.
Reinforcing Steel - 20,000 p.s.i.
Class SI Concrete - 1,400 p.s.i.

Allowable unit stresses due to wind load in combination with other forces, are increased 1.33

MINIMUM CLEARANCE: Vertical Roadway Clearance = 17'-3" (All Obstructions)

WELDING: All welds to be continuous unless otherwise shown. All welding to be done in accordance with current AWS D1.1 Structural Welding Code and the Standard Specifications.

MATERIALS: All Structural Steel Pipe shall be ASTM A53 Grade B or A500 Grade B or C. If A500 pipe is substituted for A53, then the outside diameter shall be as detailed and wall thickness greater than or equal to A53.
All Structural Steel Plates and Shapes shall conform to AASHTO M270 Gr. 36, Gr. 50 or Gr. 50W* (M183, M223 Gr. 50 or M222). Stainless steel for handhole covers shall be ASTM A240, Type 302 or 304, or another alloy suitable for exterior exposure and acceptable to the Engineer.
The steel pipe and stiffening ribs at the base plate for the column shall have a minimum longitudinal Charpy V-Notch (CVN) energy of 15 lb.-ft. at 40° F. (Zone 2) before galvanizing.

FASTENERS FOR STEEL TRUSSES: All bolts noted as "high strength" (HS) must satisfy the requirements of AASHTO M164 (ASTM A325), ASTM A449, or an Engineer approved alternate, and must have matching lock nuts and washers. All bolts, u-bolts, eye bolts, lock nuts and washers not specified to be "high strength" must satisfy the requirements of ASTM A307 Gr. B. All lock nuts must have nylon or steel inserts. High strength bolt installation shall conform to Article 505.04 (f) (2)d of the Standard Specifications. Rotational capacity ("ROCAP") testing will not be required. All bolts, locknuts and washers must be hot dip galvanized per AASHTO M232.

GALVANIZING: All Steel Grating, Plates, Shapes and Pipe shall be Hot Dip Galvanized after fabrication in accordance with AASHTO M111.

ANCHOR RODS: Shall conform to ASTM F1554 Gr. 105.

CONCRETE SURFACES: All concrete surfaces above an elevation 6" below the lowest final ground line at each foundation shall be cleaned and coated with Concrete Sealer in accordance with the Standard Specifications.

REINFORCEMENT BARS: Reinforcement Bars designated (E) shall be epoxy coated in accordance with the Standard Specifications.

FOUNDATIONS: The contract unit price for "Concrete Foundations" or "Drilled Shaft Concrete Foundations" shall include: All necessary excavation or drilling (except in rock); backfilling with excavated material; disposal of unsuitable or surplus material; formwork; and furnishing and placing the Concrete, reinforcement bars, conduit, anchor bolts, nuts, washers and ground rods complete in place.

* If M270 Gr. 50W (M222) steel is proposed, chemistry for plate to be used shall first be approved by the Engineer as suitable for galvanizing and welding.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
OVERHEAD SIGN STRUCTURE CANTILEVER TYPE I-C-S	Foot	
OVERHEAD SIGN STRUCTURE CANTILEVER TYPE II-C-S	Foot	
OVERHEAD SIGN STRUCTURE CANTILEVER TYPE III-C-S	Foot	
OVERHEAD SIGN WALKWAY-CANTILEVER TYPE S	Foot	
DRILLED SHAFT CONCRETE FOUNDATIONS	Cu. Yds	

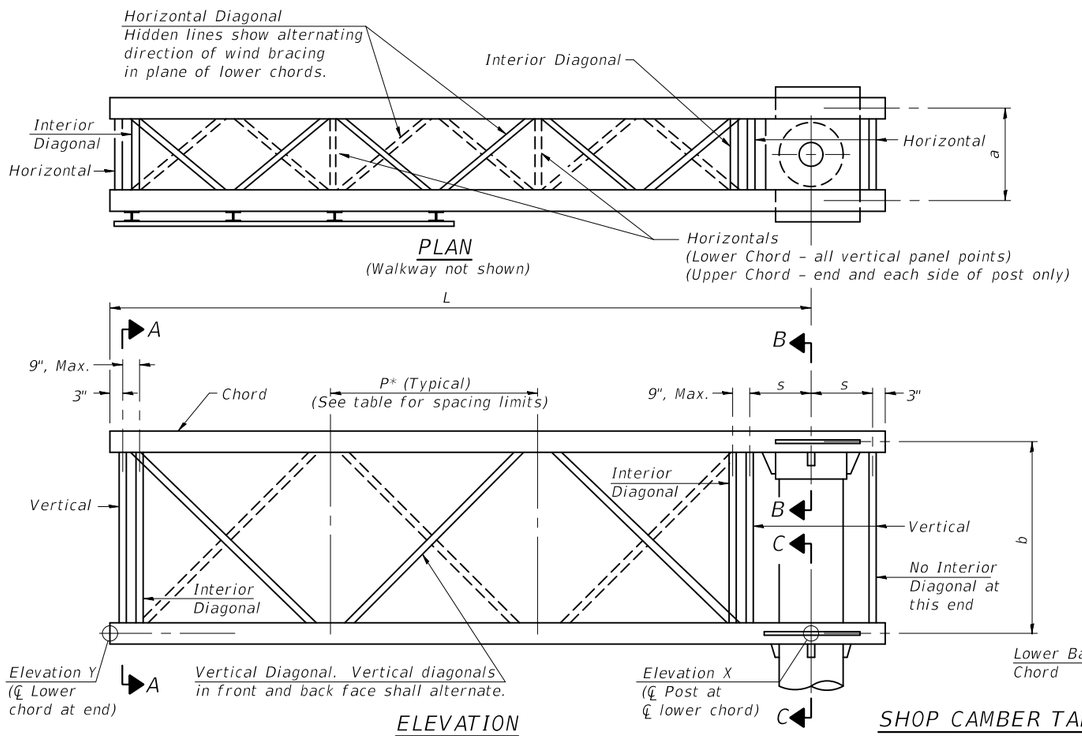
OSC-S-1 2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURES - GENERAL PLAN & ELEVATION - STEEL TRUSS & STEEL POST

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

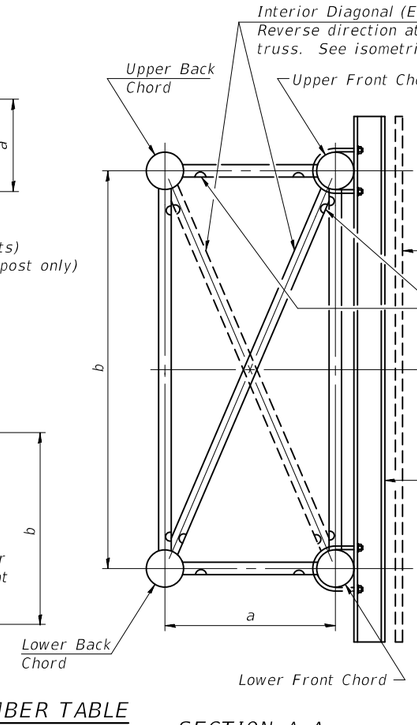


ELEVATION

(Sign and walkway omitted for clarity)

TYPICAL TRUSS UNIT

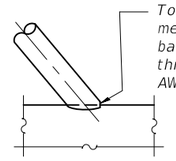
For Section B–B and Section C–C, see Base Sheet 0SC–S–3.



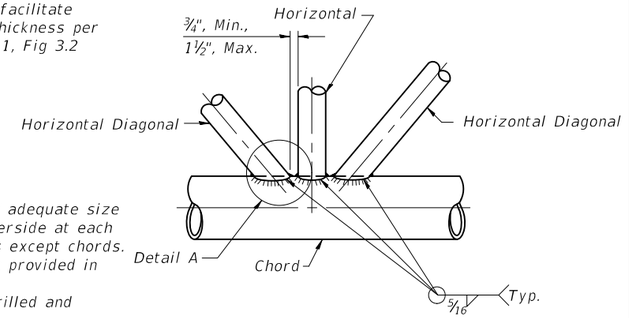
SECTION A–A

Galvanizing vent holes of adequate size shall be provided on underside at each end of all truss members except chords. Alternately, holes may be provided in wall of chords. All vent holes shall be drilled and de–burred, typ.

For sign and walkway brackets, see Base Sheets 0SC–S–6 and 0SC–S–7.



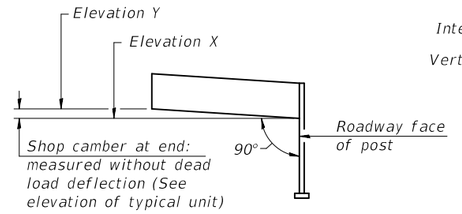
DETAIL A



TRUSS INTERIOR JOINT DETAIL

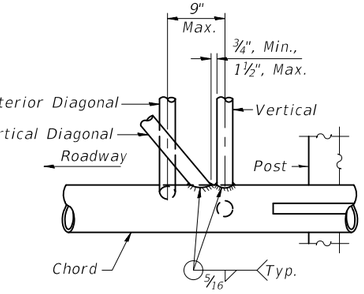
SHOP CAMBER TABLE

Unit Length (L)	Shop Camber at End
15'	2½"
16'–17'	2¾"
18'–20'	3"
21'–22'	3¼"
23'–25'	3½"
26'–27'	3"
28'–30'	3¼"
31'–32'	3½"
33'–35'	3¾"
36'–37'	5"
38'–40'	5½"



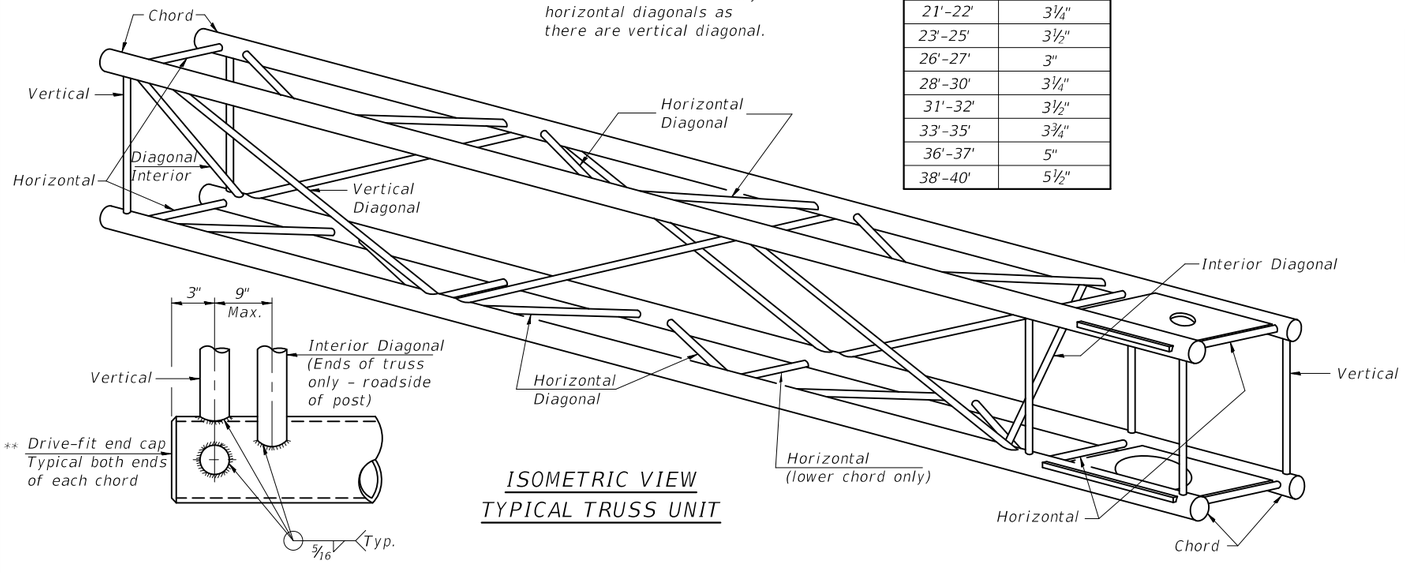
CAMBER DIAGRAM

(For Fabrication Only)



POST END JOINT DETAIL

Note:
There are twice as many horizontal diagonals as there are vertical diagonal.



ISOMETRIC VIEW
TYPICAL TRUSS UNIT

CANTILEVER END JOINT DETAIL

** Contractor must use standard drive–fit cap to close ends after galvanizing. Drive–fit cap shall have ½" Ø drain holes at low edge.

TRUSS UNIT TABLE

Truss Type	Dimension "a"	Dimension "b"	Dimension "s"	Limits for Panel Spacing (P)*	Up. & Low. Chord		Verticals; Horizontals; Vertical, Horizontal, and Interior Diagonals	
					O.D.	Wall	O.D.	Wall
I–C–S	24"	54"	16"	36" Min. to 48" Max.	5"	0.258"	2"	0.154"
II–C–S	36"	66"	21"	42" Min. to 54" Max.	6"	0.28"	2½"	0.203"
III–C–S (35' Max.)	36"	84"	21"	48" Min. to 66" Max.	6"	0.344"	2½"	0.203"
III–C–S (>35' to 40')	36"	84"	21"	48" Min. to 66" Max.	8"	0.322"	3"	0.216"

$$*P = \frac{L - s - 3"}{\#\ Panels}$$

Structure Number	Station	Truss Type	Design Length (L)	Number of Panels Per Unit	Panel Length (P)*

0SC–S–2 2–17–2017

FILE NAME =	USER NAME =	DESIGNED –	REVISED –
		CHECKED –	REVISED –
	PLOT SCALE =	DRAWN –	REVISED –
	PLOT DATE =	CHECKED –	REVISED –

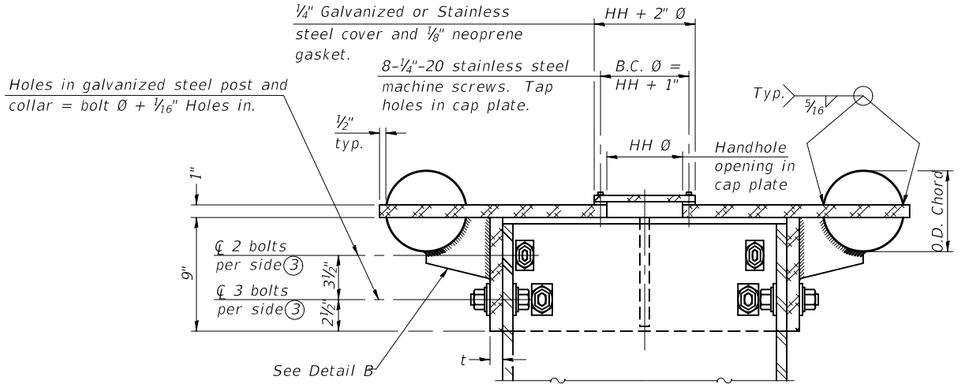
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURES – TRUSS DETAILS
STEEL TRUSS & STEEL POST

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.

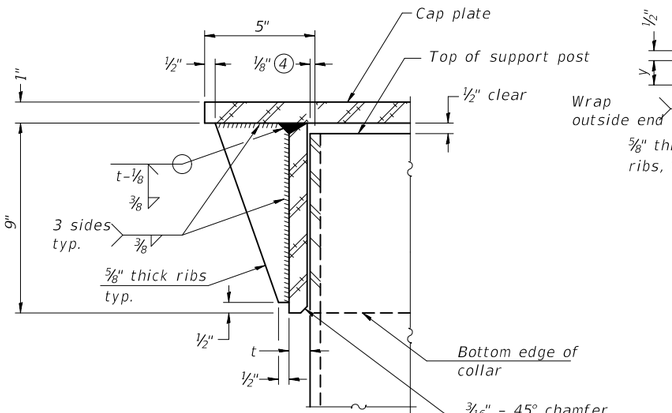
CONTRACT NO.

ILLINOIS FED. AID PROJECT



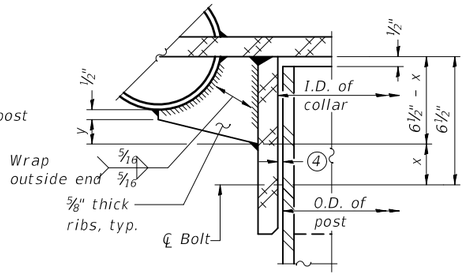
SECTION B-B

(4) After galvanizing, Collar I.D. shall equal O.D. of galvanized post plus ⅛" (±1/16") Maximum gap between post and collar at any location shall be ⅛" before tightening bolts.



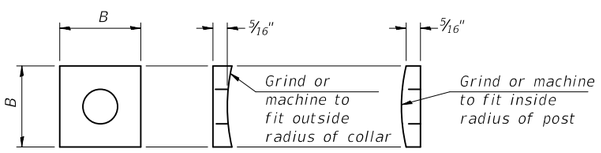
DETAIL A

(Two locations)



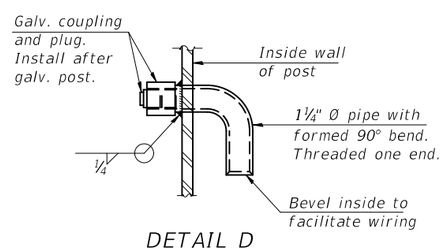
DETAIL B

Two locations
(For details not shown, see Detail C)

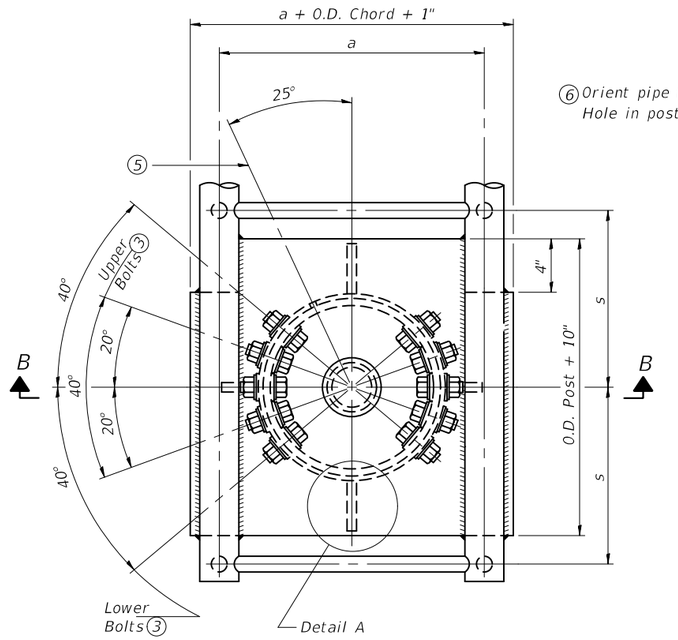


CONTOURED WASHERS

Bolt Size	Contoured Washers	
	Hole Dia.	B
⅞"	1"	2¾"
1"	1⅛"	3"
1¼"	1⅜"	3¼"

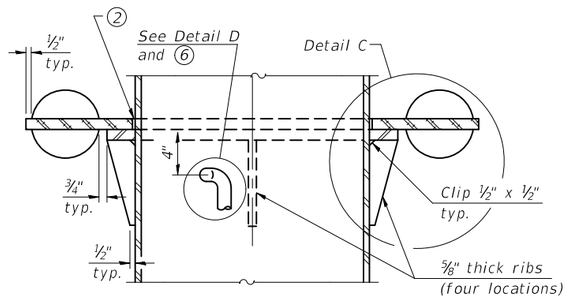


DETAIL D

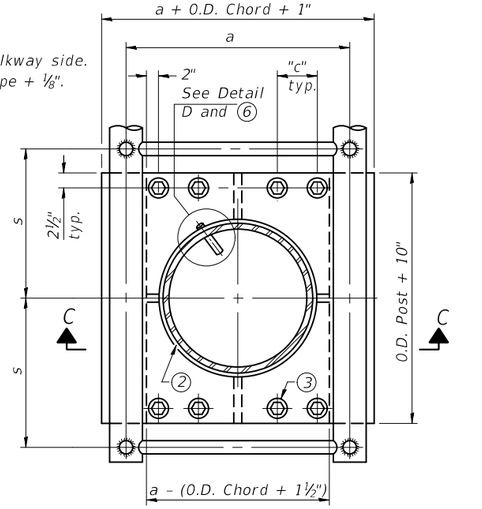


PLAN VIEW - TOP OF COLUMN

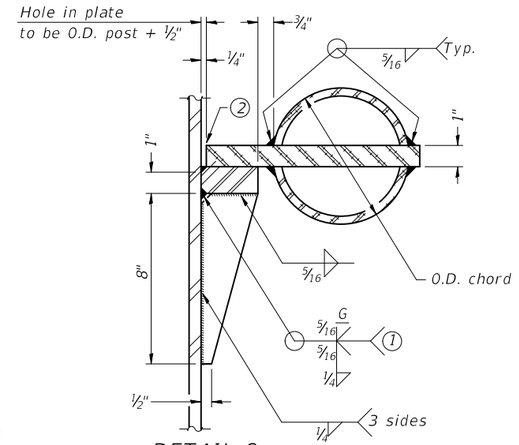
(5) Optional full penetration weld in collar.
(Two locations maximum....(180° apart)....X-ray or UT 100%)
All bolts shown are high strength



SECTION C-C



SECTION THRU POST ABOVE LOWER CHORDS



DETAIL C

(1) Grind top if required to fully seat plate. Repair damaged galvanizing before assembly.

(2) After tightening lower connection bolts, fill gap with non-hardening, silicone caulk suitable for exterior exposure and acceptable to the Engineer. Cost is included in Overhead Sign Structure Cantilever.

Truss Type	Post Size	Upper & Lower Connection Bolt Diameter (3)	Lower Juncture Bolt Spacing Dimension "c" (3)	Opening in Cap Plate "HH"	Collar Thickness (t)	Side Ribs	
						x	y
I-C-S	16" Ø (107.5#/')	⅞"	3¼"	8"	⅝"	1¾"	2¼"
II-C-S	24" Ø (125#/')	1"	3½"	12"	⅞"	2"	1¼"
III-C-S (35' Max.)	24" Ø (171#/')	1"	3½"	12"	⅞"	2"	1"
III-C-S (>35' to 40')	24" Ø (171#/')	1¼"	3½"	12"	⅞"	2"	1"

(3) Upper and lower connection bolts in collar and bolts at lower chord connection must be high strength with matching lock nuts. Lower connection bolts must have 2 flat washers each.

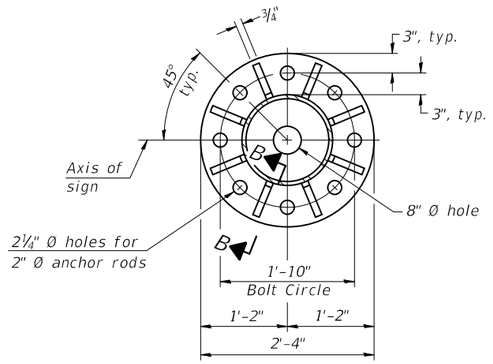
OSC-S-3 2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

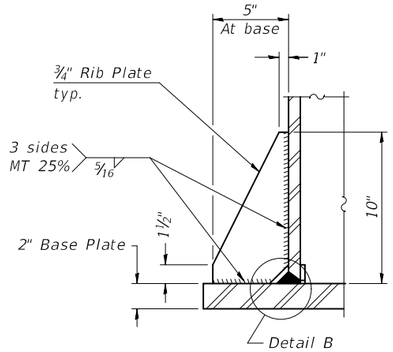
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURES - JUNCTURE DETAILS
STEEL TRUSS & STEEL POST

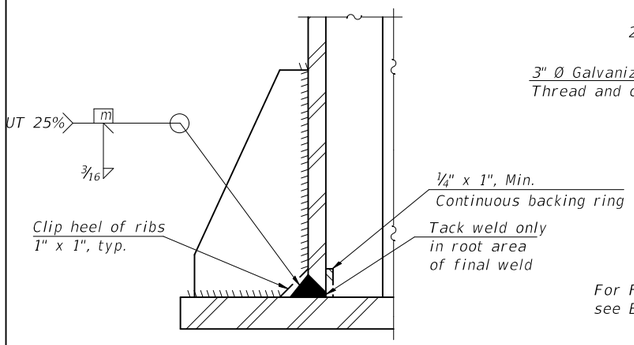
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



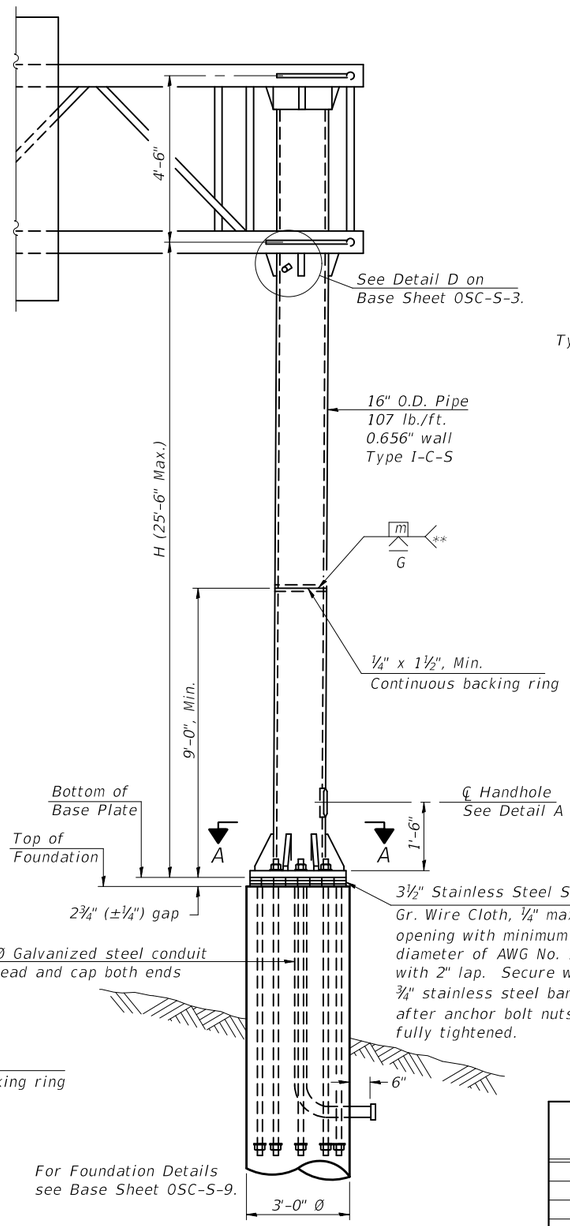
SECTION A-A



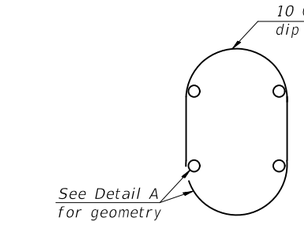
SECTION B-B



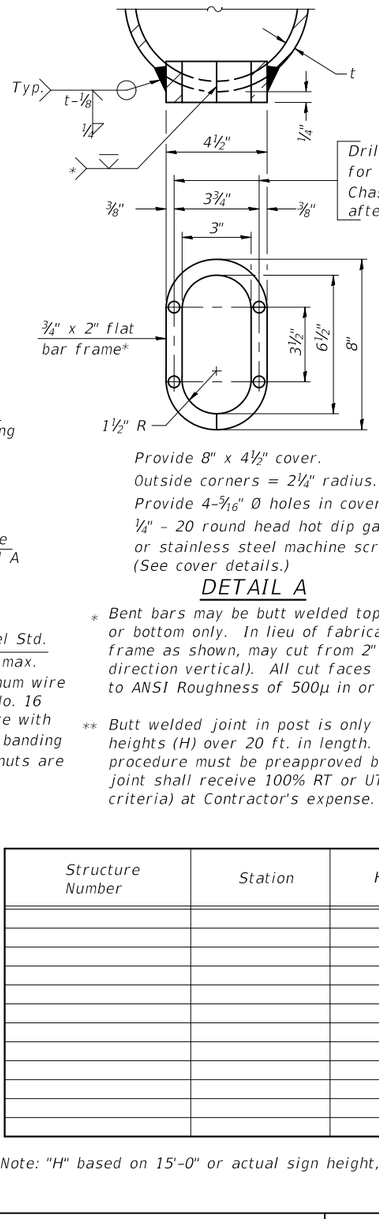
DETAIL B
(Typical rib)



FRONT ELEVATION



HANDHOLE COVER



Provide 8" x 4½" cover.
Outside corners = 2¼" radius.
Provide 4-5/16" Ø holes in cover for ¼" - 20 round head hot dip galvanized or stainless steel machine screws. (See cover details.)

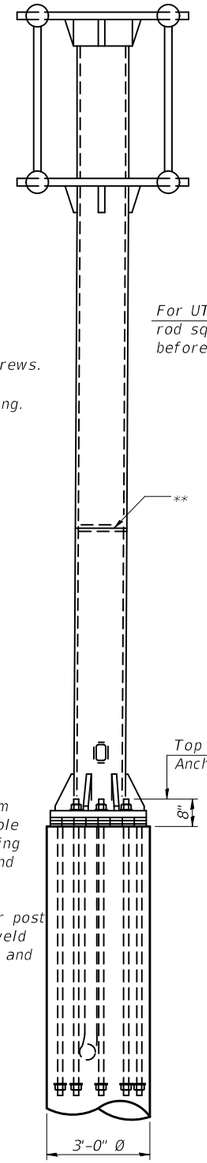
DETAIL A

* Bent bars may be butt welded top and bottom or bottom only. In lieu of fabricated handhole frame as shown, may cut from 2" plate (rolling direction vertical). All cut faces to be ground to ANSI Roughness of 500µ in or less.

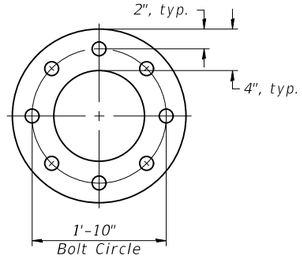
** Butt welded joint in post is only allowed for post heights (H) over 20 ft. in length. If used, weld procedure must be preapproved by Engineer and joint shall receive 100% RT or UT (tension criteria) at Contractor's expense.

Structure Number	Station	H

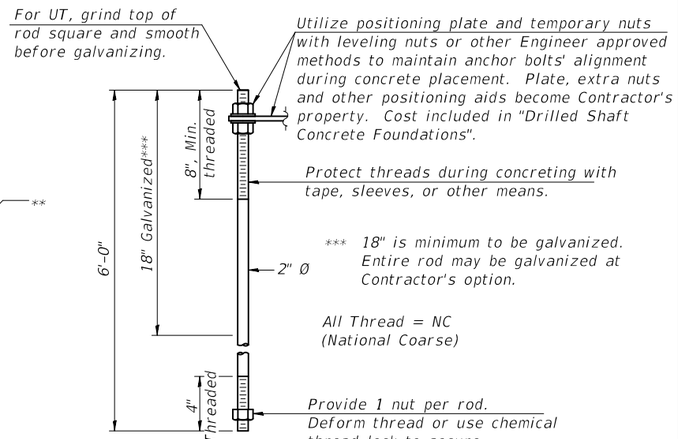
Note: "H" based on 15'-0" or actual sign height, whichever is greater.



SIDE ELEVATION



SUGGESTED POSITIONING PLATE



ANCHOR ROD DETAIL

Anchor rods shall conform to ASTM F1554 Grade 105. Galvanize the upper 18" (minimum***) and associated AASHTO M291, Grade A, C or DH heavy hex nuts and hardened washers per AASHTO M232. No welding shall be permitted on rods. Provide a nut at bottom, a hexagon locknut and washer above base plate and a leveling nut and washer below base plate. Nuts shall each be tightened with 200 lb.-ft. minimum torque against base plate. Before or after threading, but before galvanizing, each anchor rod shall be ultrasonically tested (UT) by a Level II or III inspector, qualified in accord with ANSI guidelines, to insure no rejectable flaws exist in the upper 18" (tension criteria). Cost of testing included in Drilled Shaft Concrete Foundations.

0SC-S-4 2-17-2017

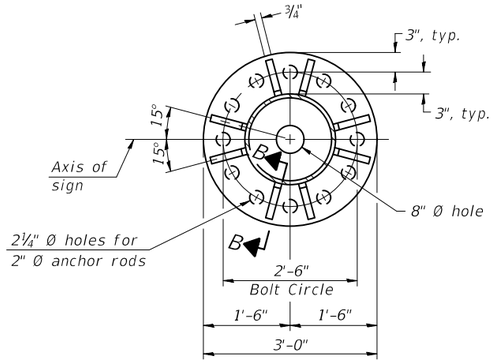
FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

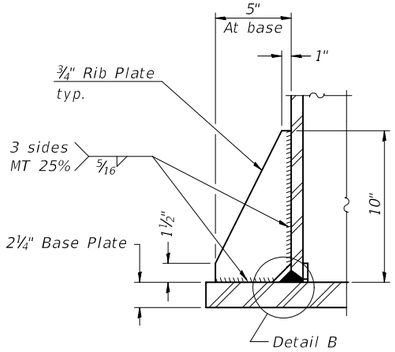
CANTILEVER SIGN STRUCTURES - TYPE I-C-S TRUSS
SUPPORT POST - STEEL TRUSS & STEEL POST

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.

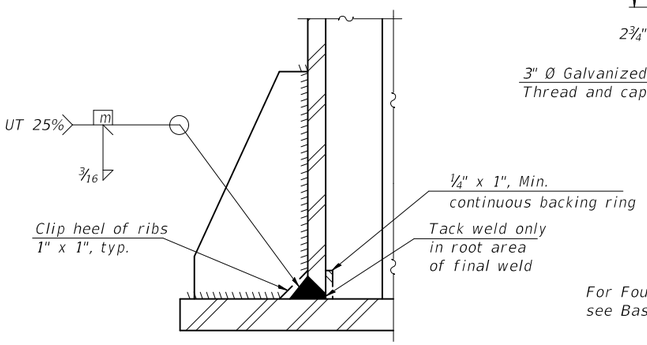
CONTRACT NO.
ILLINOIS FED. AID PROJECT



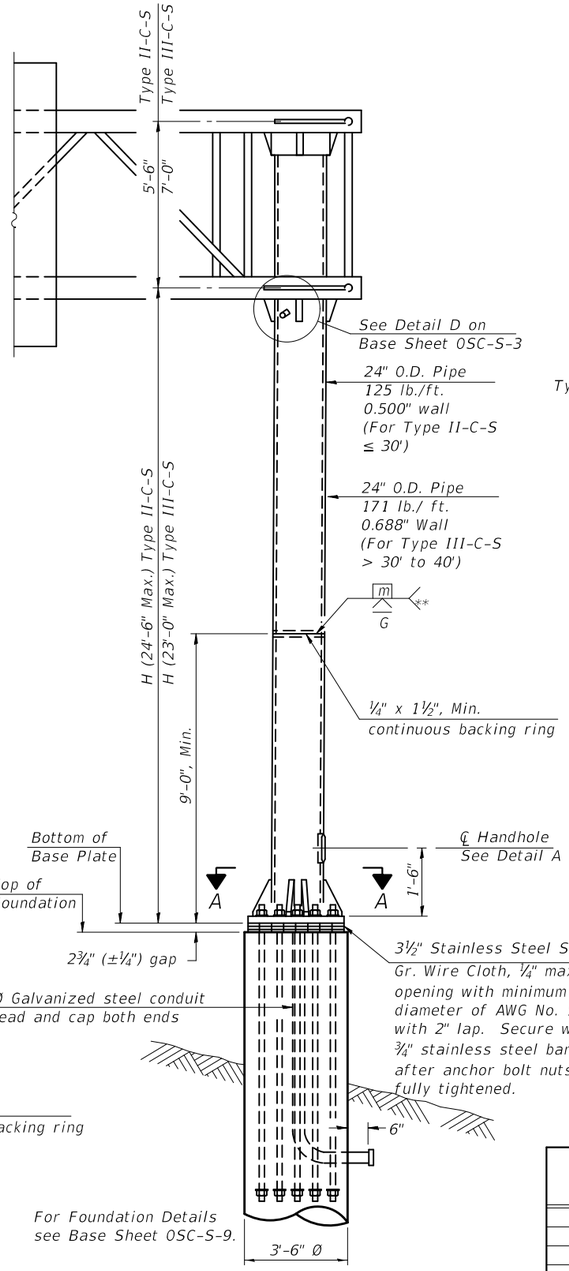
SECTION A-A



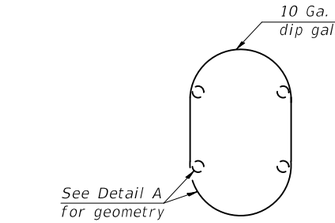
SECTION B-B



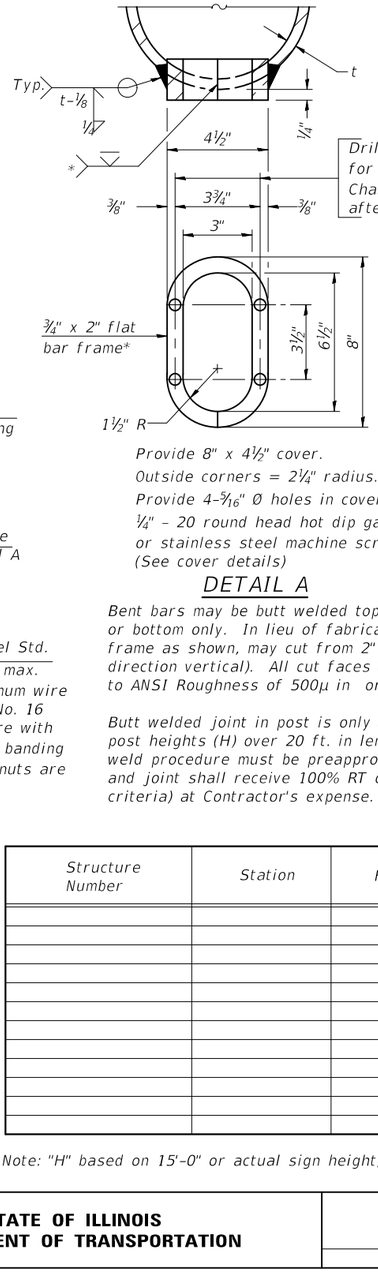
DETAIL B
(Typical rib)



FRONT ELEVATION



HANDHOLE COVER

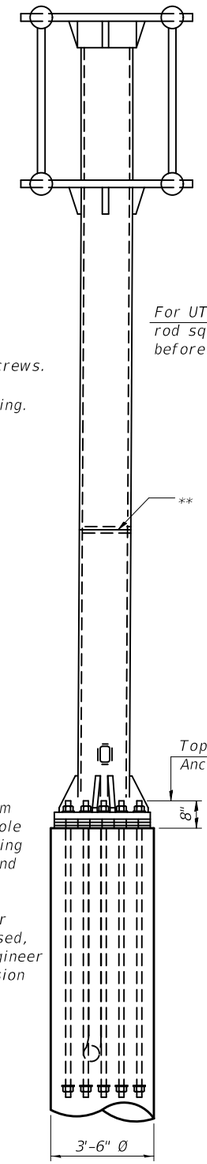


Provide 8" x 4½" cover.
Outside corners = 2¼" radius.
Provide 4-5/16" Ø holes in cover for ¼" - 20 round head hot dip galvanized or stainless steel machine screws.
(See cover details)

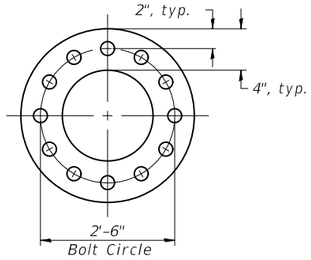
DETAIL A

Bent bars may be butt welded top and bottom or bottom only. In lieu of fabricated handhole frame as shown, may cut from 2" plate (rolling direction vertical). All cut faces to be ground to ANSI Roughness of 500μ in or less.

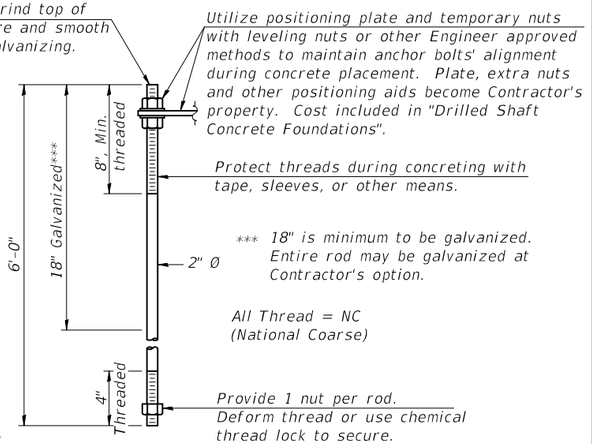
Butt welded joint in post is only allowed for post heights (H) over 20 ft. in length. If used, weld procedure must be preapproved by Engineer and joint shall receive 100% RT or UT (tension criteria) at Contractor's expense.



SIDE ELEVATION



SUGGESTED POSITIONING PLATE



ANCHOR ROD DETAIL

Anchor rods shall conform to ASTM F1554 Grade 105. Galvanize the upper 18" (minimum***) and associated AASHTO M291, Grade A, C or DH heavy hex nuts and hardened washers per AASHTO M232. No welding shall be permitted on rods. Provide a nut at bottom, a hexagon locknut and washer above base plate and a leveling nut and washer below base plate. Nuts shall each be tightened with 200 lb.-ft. minimum torque against base plate. Before or after threading, but before galvanizing, each anchor rod shall be ultrasonically tested (UT) by a Level II or III inspector, qualified in accord with ANSI guidelines, to insure no rejectable flaws exist in the upper 18" (tension criteria). Cost of testing included in Drilled Shaft Concrete Foundations.

Structure Number	Station	H

Note: "H" based on 15'-0" or actual sign height, whichever is greater.

0SC-S-5 2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
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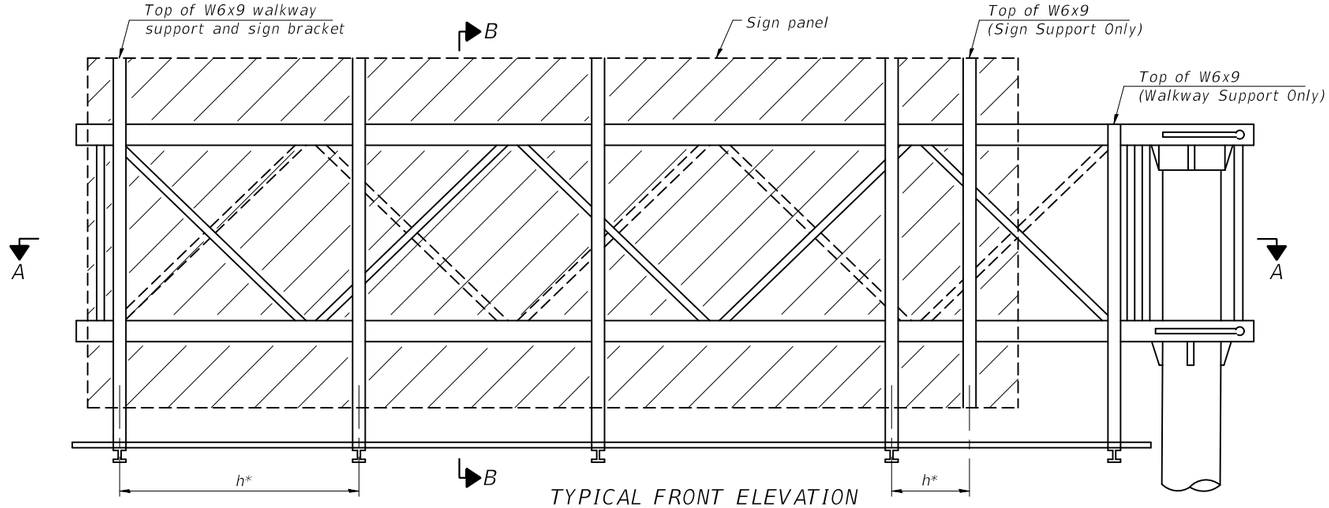
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

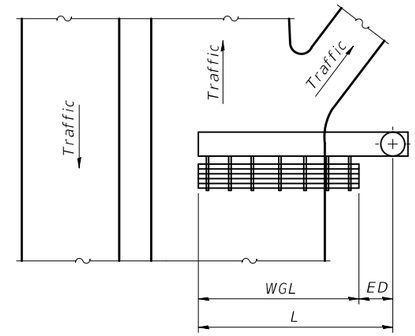
CANTILEVER SIGN STRUCTURES - TYPE II-C-S & III-C-S
TRUSS SUPPORT POST - STEEL TRUSS & STEEL POST

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



TYPICAL FRONT ELEVATION

With lights and handrail omitted for clarity.

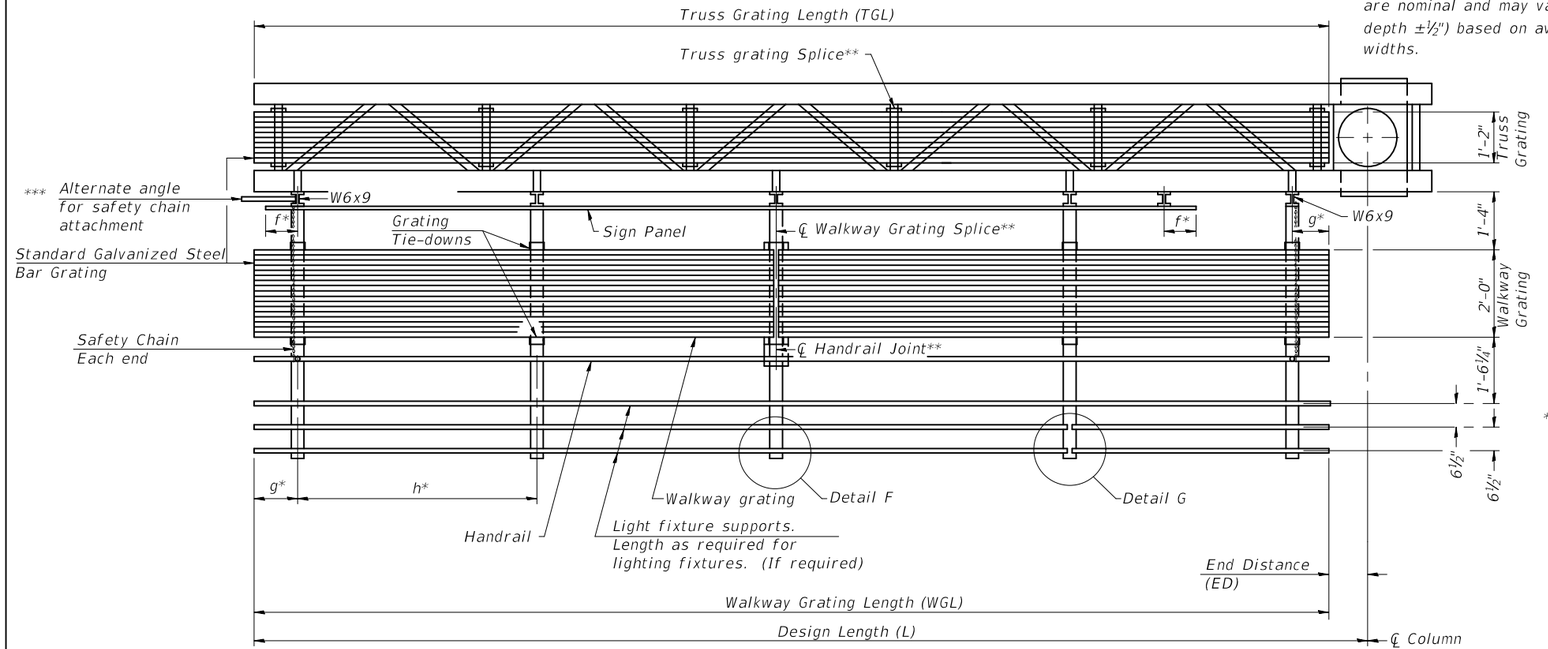


PLAN
WALKWAY AND HANDRAIL SKETCH

(Road plan beneath truss varies)

Walkway and truss grating dimensions are nominal and may vary (width ±½", depth ±½") based on available standard widths.

Structure Number	Station	WGL	ED	TGL



SECTION A-A

Truss grating to facilitate inspection shall run full length of cantilevers. Cost of truss grating is included in "Overhead Sign Structure Cantilever".

Notes:

* Space walkway brackets and sign brackets W6x9 for efficiency and within limits shown:

f = 12" maximum, 4" minimum (End of sign to ℄ of nearest bracket)
g = 12" maximum, 4" minimum (End of walkway to ℄ of nearest bracket)
h = 6'-0" maximum (℄ to ℄ sign and/or walkway support brackets, W6x9)

*** If walkway bracket at safety chain location is behind sign, add angle to bracket. See alternate safety chain attachment on base sheet 0SC-S-8.
For details of sign placement, sign/walkway brackets, truss and walkway gratings, grating splices and Section B-B, see Base Sheet 0SC-S-7.
For details of handrail, handrail joint, safety chain and Details F and G, see Base Sheet 0SC-S-8.

* Handrail and walkway grating shall span a minimum of three brackets between splices.
** Use and location of handrail joints or grating splices are optional, based on lengths needed and material availability.

$$TGL = L - \left(\frac{\text{Post O.D.}}{2} + 6''\right)$$

BRACKET TABLE

W6x9		
Sign Width		Number Brackets Required
Greater Than	Less Than or Equal To	
	10'-0"	2
10'-0"	16'-0"	3
16'-0"	22'-0"	4
22'-0"	28'-0"	5
28'-0"	34'-0"	6

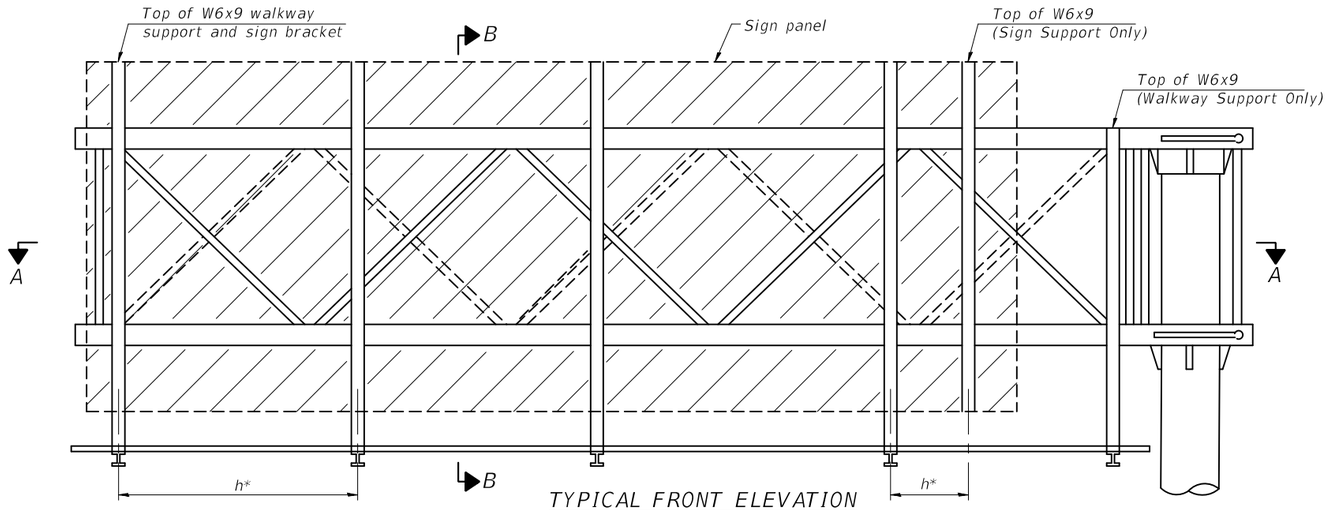
0SC-S-6 2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

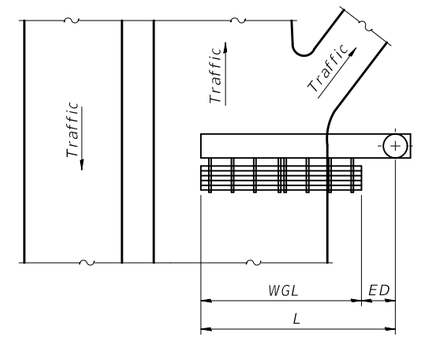
CANTILEVER SIGN STRUCTURES – WALKWAY DETAILS
STEEL TRUSS & STEEL POST

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		



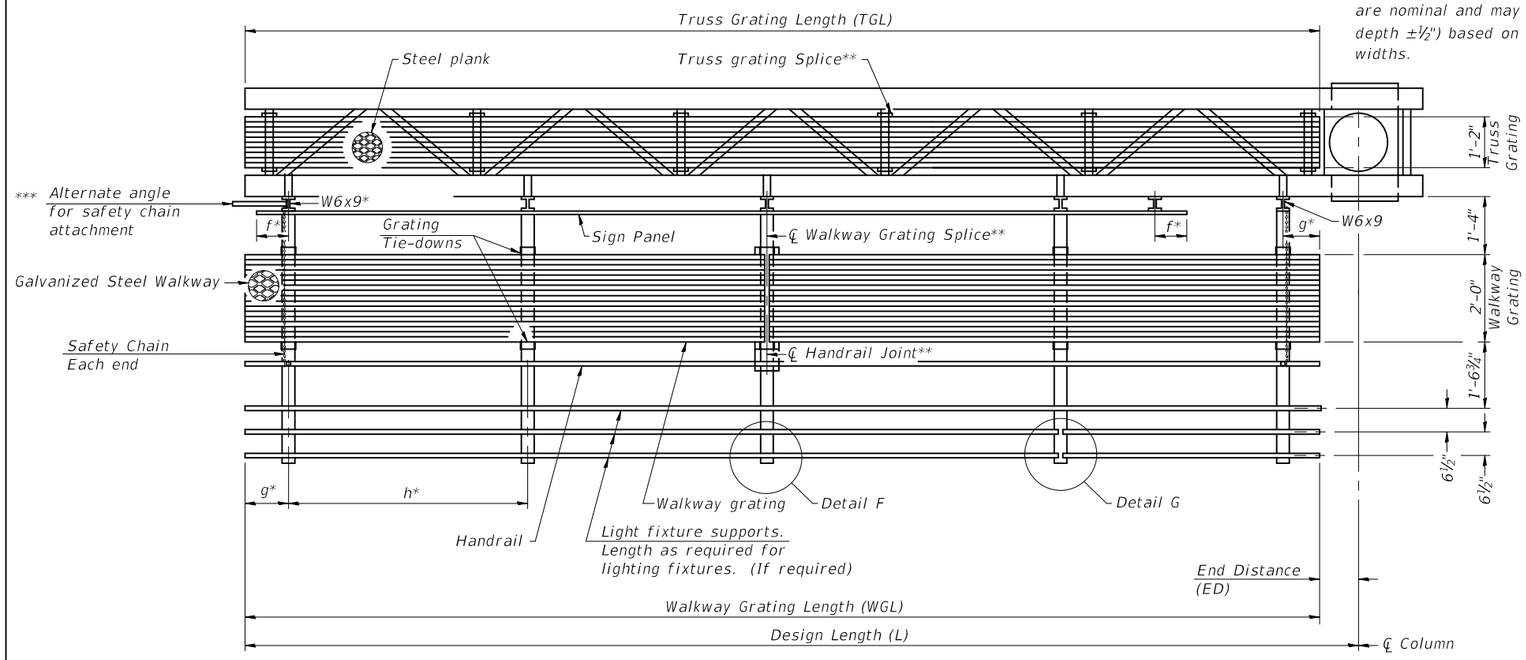
TYPICAL FRONT ELEVATION

With lights and handrail omitted for clarity.



PLAN
WALKWAY AND HANDRAIL SKETCH

(Road plan beneath truss varies)



SECTION A-A

Walkway and truss grating dimensions are nominal and may vary (width ±½", depth ±½") based on available standard widths.

Structure Number	Station	WGL	ED	TGL

Notes:

* Space walkway brackets and sign brackets W6x9 for efficiency and within limits shown:

f = 12" maximum, 4" minimum (End of sign to ℄ of nearest bracket)
g = 12" maximum, 4" minimum (End of walkway to ℄ of nearest bracket)
h = 6'-0" maximum (℄ to ℄ sign and/or walkway support brackets, W6x9)

*** If walkway bracket at safety chain location is behind sign, add angle to bracket. See alternate safety chain attachment on base sheet 0SC-S-8.
For details of sign placement, sign/walkway brackets, truss and walkway gratings, grating splices and Section B-B, see Base Sheet 0SC-S-7S.
For details of handrail, handrail joint, safety chain and Details F and G, see Base Sheet 0SC-S-8.

Truss grating to facilitate inspection shall run full length of cantilevers. Cost of truss grating is included in "Overhead Sign Structure Cantilever".

** Handrail and walkway grating shall span a minimum of three brackets between splices. Use and location of handrail joints or grating splices are optional, based on lengths needed and material availability.

$$TGL = L - \left(\frac{\text{Post O.D.}}{2} + 6" \right)$$

BRACKET TABLE

W6x9		
Sign Width		Number Brackets Required
Greater Than	Less Than or Equal To	
	8'-0"	2
8'-0"	14'-0"	3
14'-0"	20'-0"	4
20'-0"	26'-0"	5
26'-0"	32'-0"	6

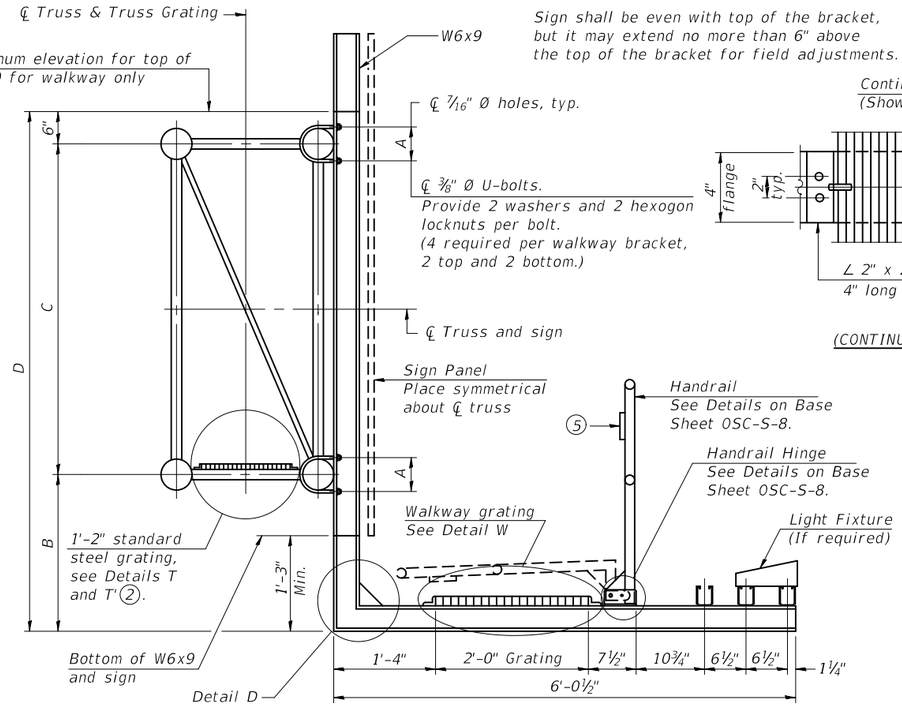
0SC-S-6S 2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

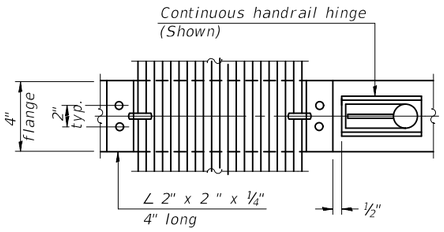
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURES – ALTERNATE STEEL
WALKWAY DETAILS – STEEL TRUSS & STEEL POST

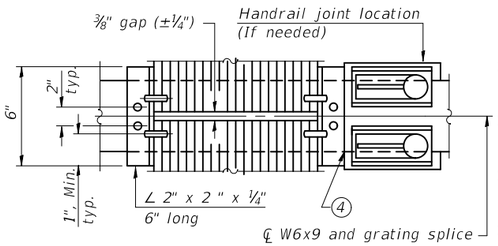
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		



SECTION B-B



(CONTINUOUS WALKWAY GRATING)



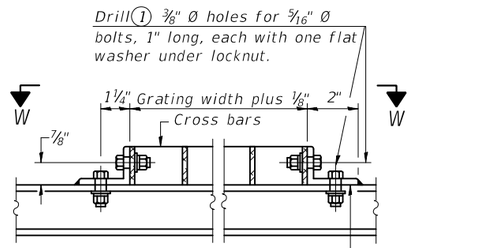
(AT WALKWAY GRATING SPLICE)

1. Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.
2. When truss grating must be spliced, use suggested detail or other methods subject to the Engineer's review and approval. Locate splice to avoid interference between cross bars and bolt locations.
3. Tube to grating gap may vary from 0 to ½" (max.) to align walkway, allow for camber, etc.
4. If Handrail Joint present, weld angle to W6x9 and ¼" extension bars. (See Base Sheet 0SC-S-8)
5. PL ⅛" x ½" x 2" welded to handrail posts to protect locations that contact grating.
6. Based on actual sign height, ^{S}D , given on 0SC-S-1.

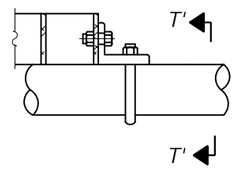
BAR SIZES FOR STANDARD STEEL GRATING

TRUSS GRATING	Main bearing bars 3/16" x 1½" on 1 3/16" centers. Cross bars 3/16" x 1½" on 4" centers.
WALKWAY GRATING	Main bearing bars 3/16" x 1½" on 1 3/16" centers. Cross bars 3/16" x 1½" on 4" centers.

SECTION W-W

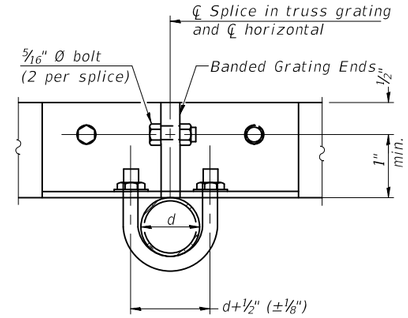


DETAIL W
(Walkway grating)

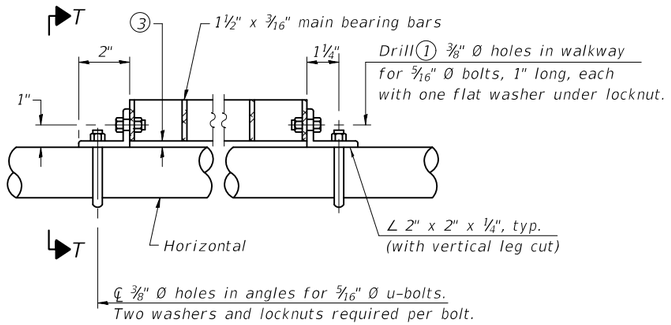


DETAIL T'

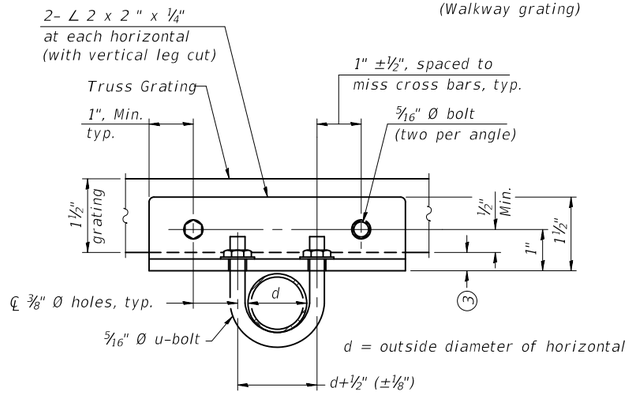
(Truss grating splice)
Details not shown same as Detail T.
Alternate materials may be used subject to the Engineer's review and approval.



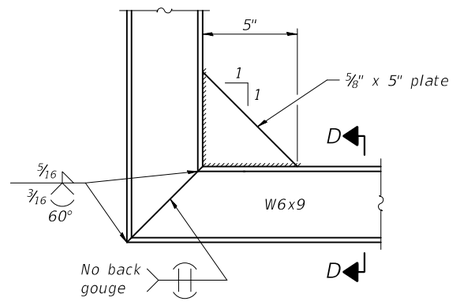
SECTION T'-T'



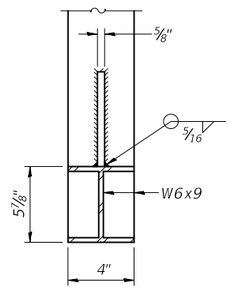
DETAIL T
(Truss grating at horizontal)



SECTION T-T



DETAIL D



SECTION D-D

Structure Number	Station	A	(6) B	C	(6) D

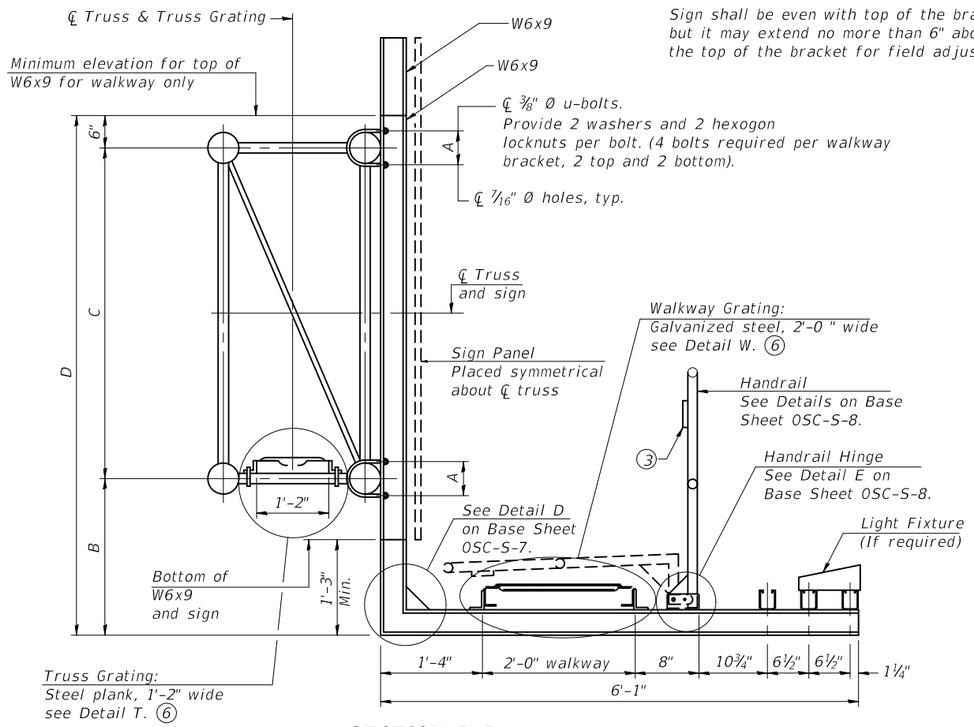
0SC-S-7 2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

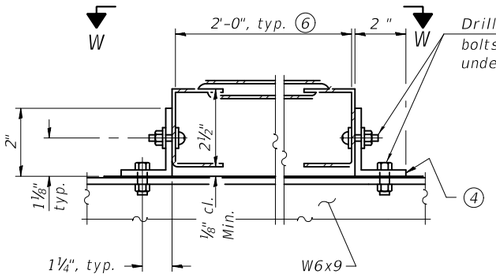
CANTILEVER SIGN STRUCTURES - WALKWAY DETAILS
STEEL TRUSS & STEEL POST

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



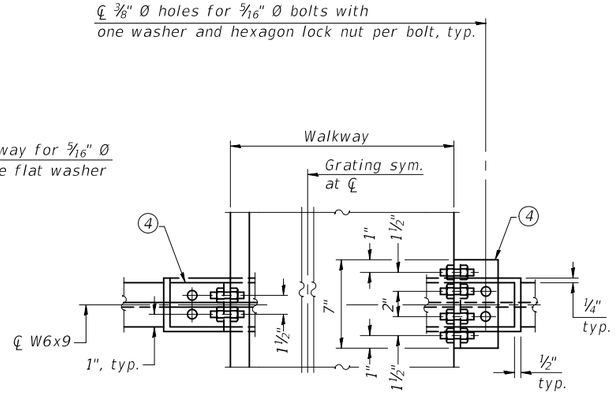
SECTION B-B

Sign shall be even with top of the bracket, but it may extend no more than 6" above the top of the bracket for field adjustments.



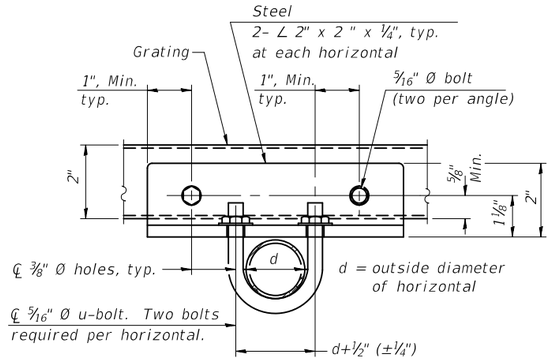
DETAIL W

GALVANIZED STEEL WALKWAY GRATING



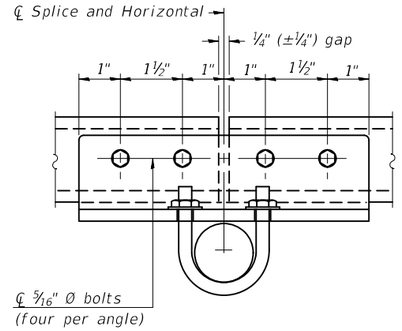
WALKWAY GRATING CONTINUOUS AT WALKWAY GRATING SPLICE

SECTION W-W



SECTION T-T

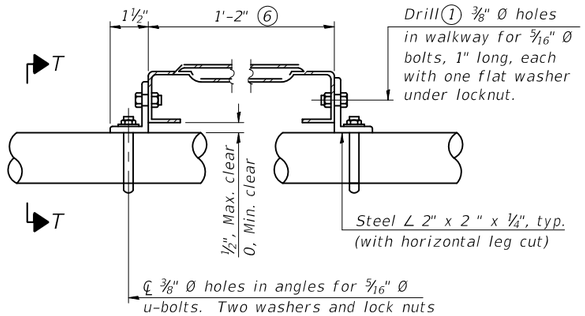
(Truss Grating Continuous)



SECTION T-T

(Truss grating splice)

Details not shown same as Section T-T. Alternate splice details and locations may be used subject to the Engineer's review and approval.



DETAIL T

(Truss Grating at Horizontal)

(1) Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.

(2) When truss grating must be spliced, use suggested details or other methods in accord with grating manufacturer's recommendation and subject to the Engineer's review and approval.

(3) PL ⅛" x ½" x 2" welded to handrail posts to protect locations that contact grating.

(4) Galvanized steel ∠ 2" x 2 " x ¼", 3½" long with continuous grating 7" long at grating splice.

(5) Details shown are considered equal alternatives to Standard Steel Walkway Details and may be substituted by Contractor at no charge in contract cost.

(6) Perforated or expanded metal grating providing a skid resistant (non-serrated) surface and capable of supporting a 500 pound concentrated load with a 6'-0" clear span. Walkway and truss grating dimensions are nominal and may vary (width ±½", depth ±½") based on available standard sizes. Cut ends of grating shall be free of burrs or hazardous projections and coated with zinc-rich primer or equivalent.

(7) Based on actual sign height, D3, given on 0SC-S-1.

STEEL TRUSS GRATING

Structure Number	Station	A	(7) B	C	(7) D

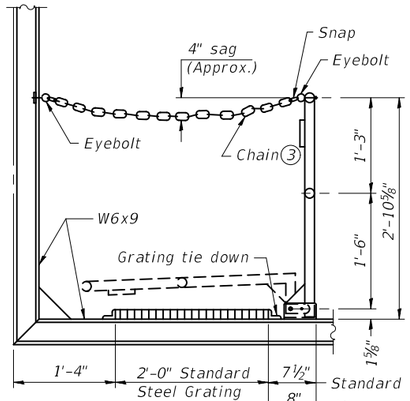
0SC-S-7S 2-17-2017

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

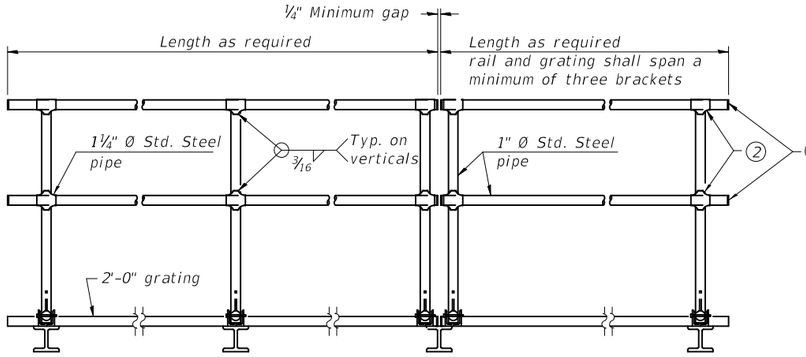
CANTILEVER SIGN STRUCTURES
ALTERNATE WALKWAY DETAILS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



SIDE ELEVATION

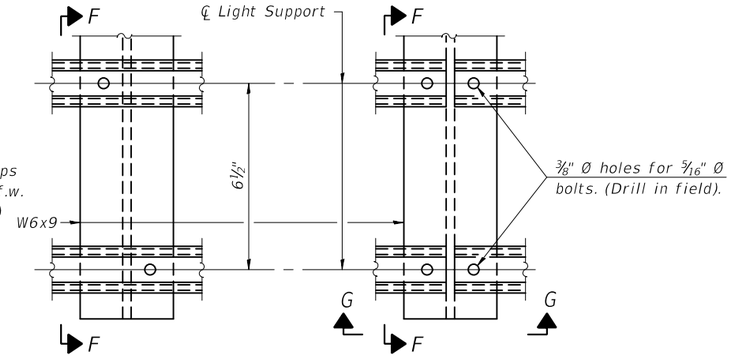
(Showing Safety Chain W/O Sign)



FRONT ELEVATION

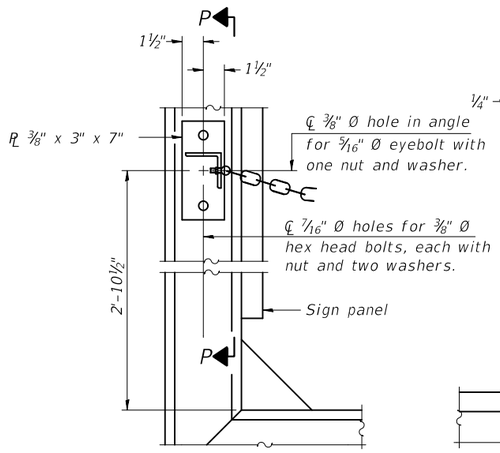
HANDRAIL DETAILS

② Horizontal handrail member shall be continuous thru 1¼" Ø pipe. Provide 7/16" Ø hole in 1¼"Ø pipe for ⅜" Ø bolt. Field drill 7/16" Ø hole in horizontal rail member. Provide washer and locknut for bolt. (Use 5/16" eyebolts in 7/16" Ø holes on top rail at ends only.)



DETAIL F

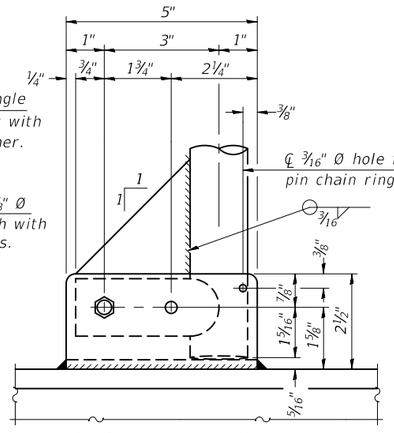
DETAIL G



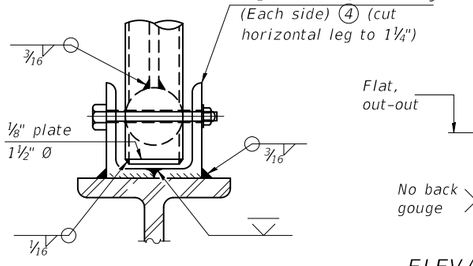
ALTERNATE SAFETY CHAIN ATTACHMENT

(With Sign Present)

Items not shown same as "Side Elevation" of "Handrail Details"

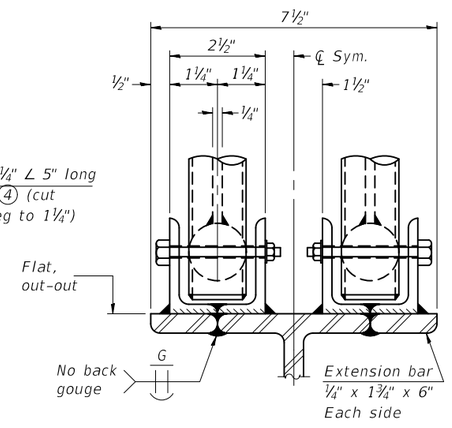


SIDE ELEVATION



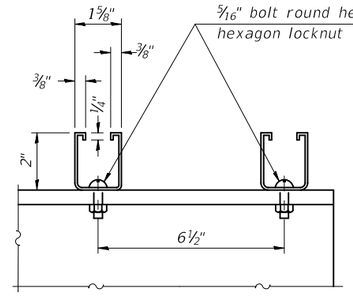
FRONT ELEVATION

Details not shown same as "ELEVATION" at right.

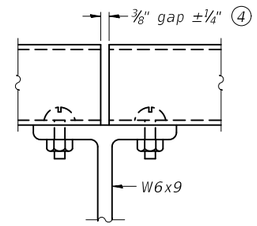


ELEVATION AT HANDRAIL JOINT

Details not shown same as "FRONT ELEVATION"



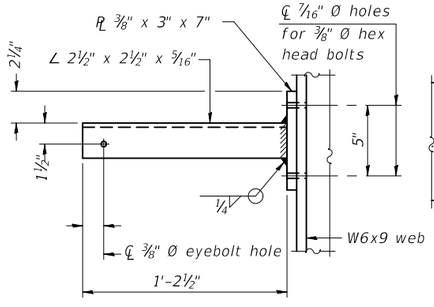
SECTION F-F



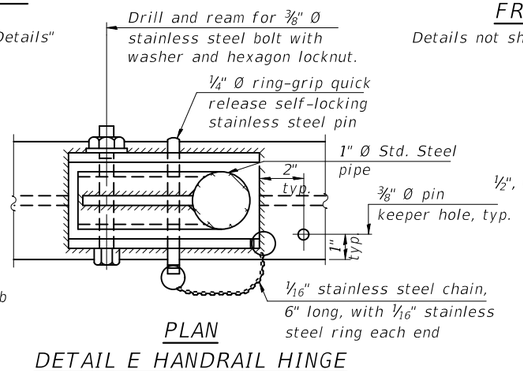
SECTION G-G

LIGHTING FIXTURE MOUNTS (IF REQUIRED)

④ Field cut ends of light support channels shall be free of burrs or hazardous projections and coated with zinc-rich primer or equivalent.

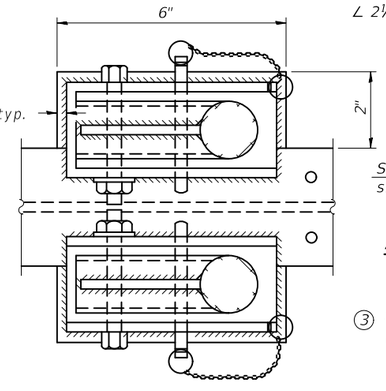


SECTION P-P



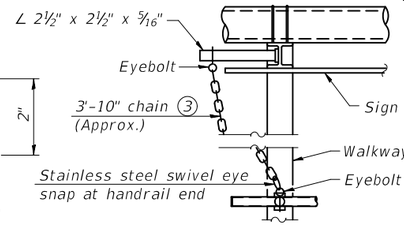
PLAN

DETAIL E HANDRAIL HINGE



PLAN AT HANDRAIL JOINT

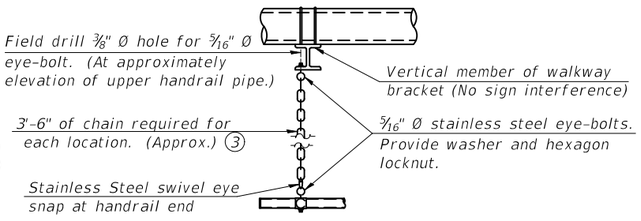
Details not shown same as "PLAN"



ALTERNATE SAFETY CHAIN ATTACHMENT

Details not shown similar to "Safety Chain" Details
(Walkway omitted for clarity)

③ 3/16" Type 304L Stainless steel chain, approximately 12 links per foot.



SAFETY CHAIN

One required for each end of each walkway.

OSC-S-8 2-17-2017

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	PLOT DATE =	CHECKED -	REVISED -

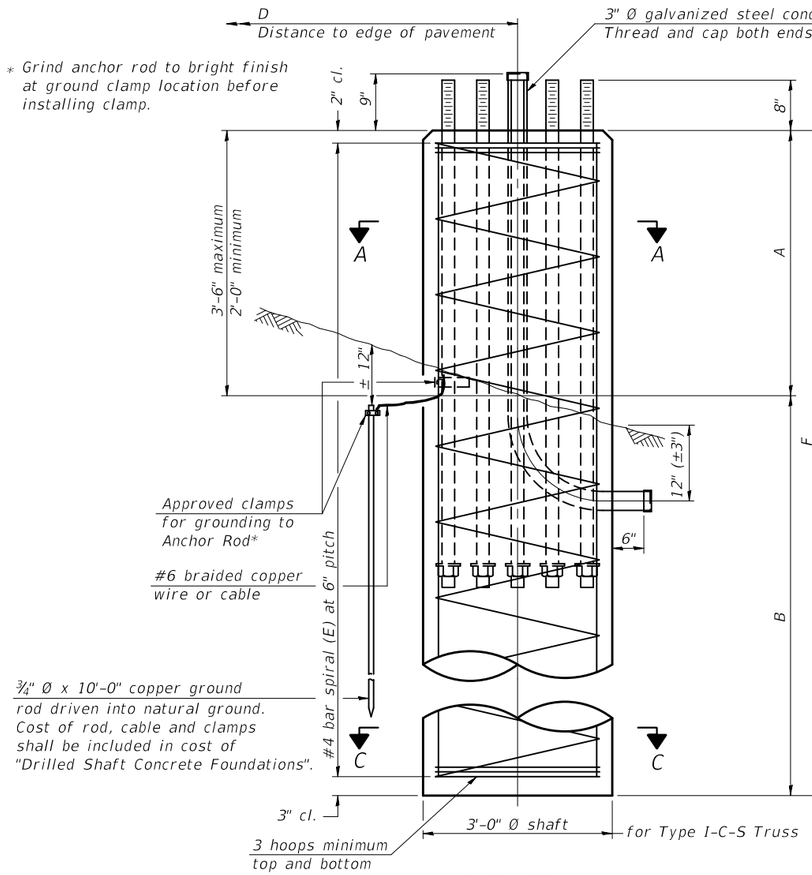
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURES – HANDRAIL DETAILS
STEEL TRUSS & STEEL POST

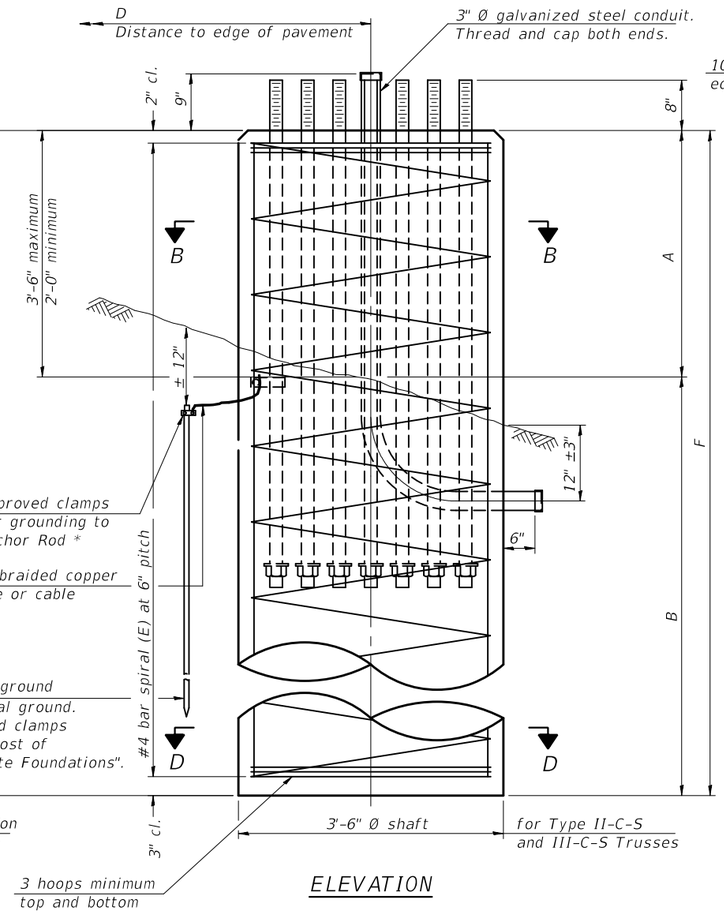
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.

CONTRACT NO.

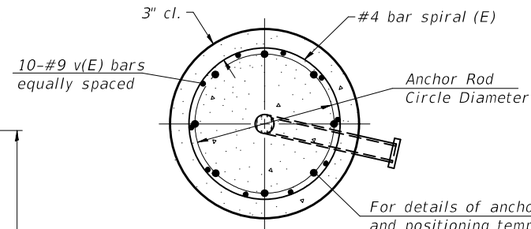
ILLINOIS FED. AID PROJECT



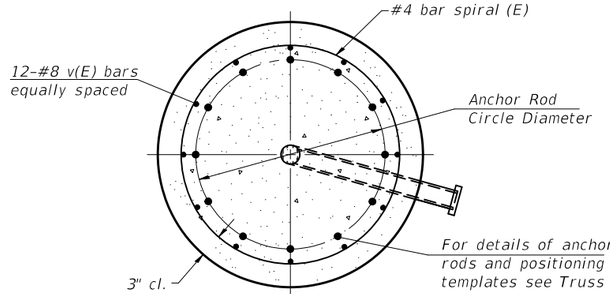
ELEVATION



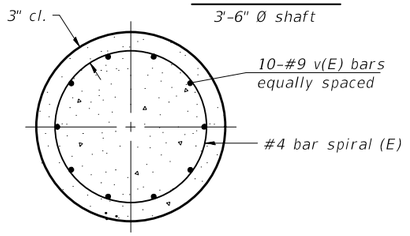
ELEVATION



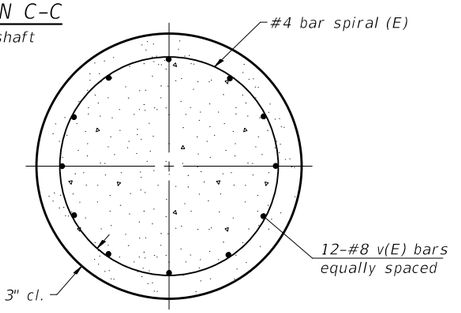
SECTION A-A
3'-0" Ø shaft



SECTION B-B
3'-6" Ø shaft



SECTION C-C
3'-0" Ø shaft



SECTION D-D
3'-6" Ø shaft

NOTES:

The foundation details shown are based on common cohesive soil conditions (silty or sandy clay) with an average Qu ≥ 1.25 ton/sq. ft. for all strata within the "B" portion of the foundation. "Qu", the soil's unconfined compressive strength, shall be determined by the Engineer from either hand penetrometer readings during construction or previous soil investigations at the site. For lower soil strengths or different soil types, the Engineer shall review pertinent data and determine any required revisions to the diameter, depth, reinforcement or configuration of the foundation. If changes are required by the Engineer, or if dimensions "B" and "F" are increased more than 12" by the Contractor, "as-built" plans shall be prepared and submitted to the District Bureau of Operations for future reference. Actual "B", "Elevation Bottom", and average"Qu" values shall also be entered in the table on this sheet for permanent reference.

No sonotubes or decomposable forms shall be used below the lower conduit entrance. Permanent metal forms or other shielding may not be left in place below that elevation without the Engineers' written permission. Excavations shall be dewatered before concrete placement if directed by the Engineer at no additional cost.

Concrete shall be placed monolithically, without construction joints.

Backfill shall be placed per Article 502 of Standard Specification and prior to erection of support column.

A normal surface finish followed by a Concrete Sealer application will be required on concrete surfaces above the lowest elevation 6" below finished ground line. Cost included in Drilled Shaft Concrete Foundation.

FOUNDATION DATA

Truss Type	Post Base Sheet	Maximum Cantilever Length (ft)	Maximum Total Sign Area (sq ft)	Shaft ∅ (in)	"B" Depth (ft)	Anchor Rods No.	Anchor Rods ∅ (in)	Anchor Rod Circle Diameter (in)
I-C-S	OSC-S-4	25	170	3.0	15.5	8	2	22
II-C-S	OSC-S-5	30	170	3.5	15.0	12	2	30
II-C-S	OSC-S-5	30	340	3.5	21.5	12	2	30
III-C-S	OSC-S-5	35	170	3.5	19.0	12	2	30
III-C-S	OSC-S-5	35	250	3.5	22.5	12	2	30
III-C-S	OSC-S-5	35	400	3.5	26.5	12	2	30
III-C-S	OSC-S-5	40	400	3.5	30.0	12	2	30

Structure Number	Station	Truss Type	Shaft Diameter	Elevation Top	Elevation Bottom	Qu	A	B	F	Class DS Concrete Cubic Yards

F = A + B

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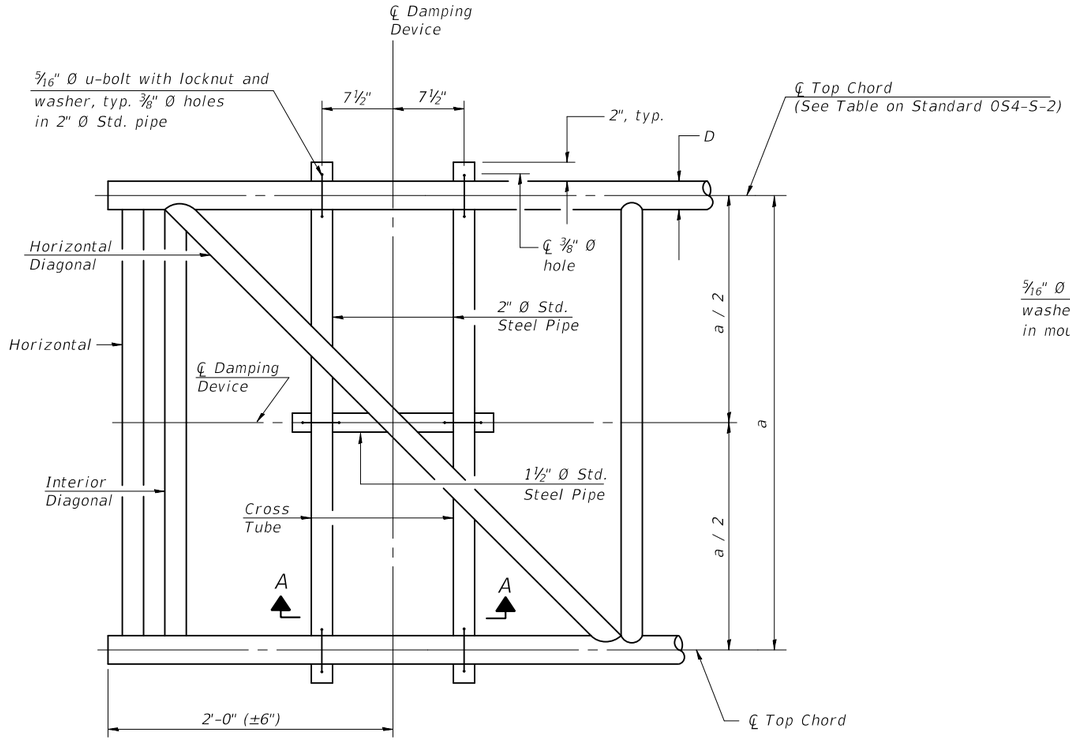
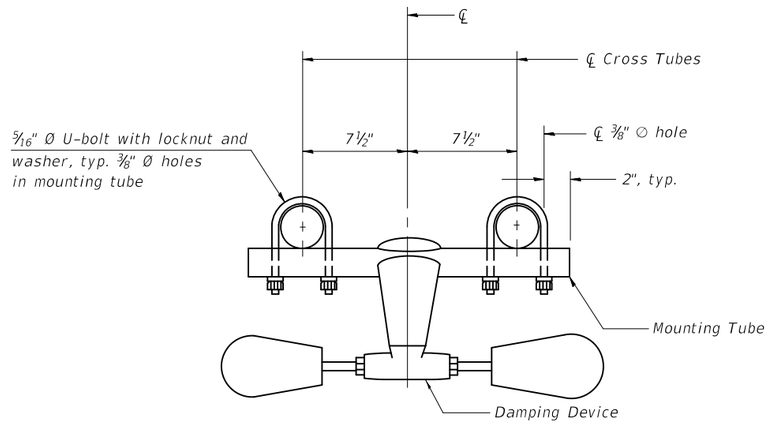
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURES – DRILLED SHAFT
STEEL TRUSS & STEEL POST

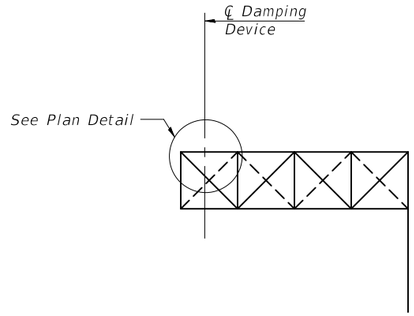
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



PLAN DETAIL

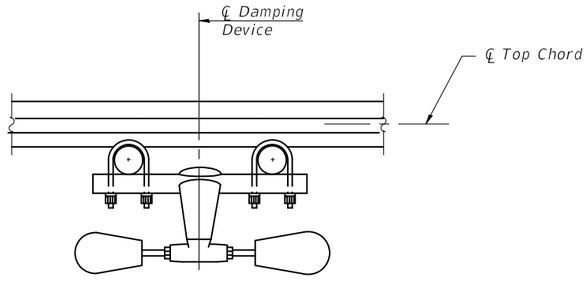


TRUSS DAMPING DEVICE CONNECTION DETAIL

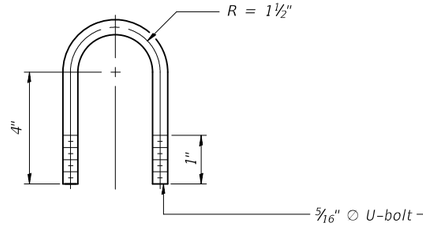


ELEVATION

Steel Cantilever Sign Structure

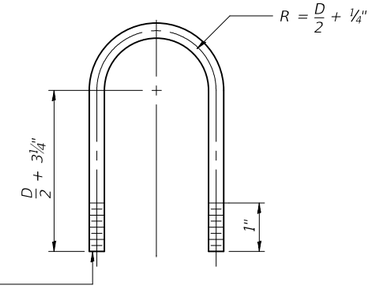


SECTION A-A



DAMPING DEVICE MOUNTING TUBE U-BOLT DETAIL

(Typical)



TOP CHORD TO CROSS TUBE U-BOLT DETAIL

(Typical)

GENERAL NOTES

Damper: One damper per truss. (31 Lbs. Stockbridge-Type – 29" minimum between ends of weights)

OSC-S-D 2-17-2017

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURES
DAMPING DEVICE

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		